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**STOPPING
WATER POLLUTION
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MISA

Municipal/Industrial Strategy for Abatement

**ACUTE LETHALITY DATA
FOR ONTARIO'S
ORGANIC CHEMICAL MANUFACTURING
SECTOR EFFLUENTS**

**COVERING THE PERIOD FROM
APRIL 1990 TO SEPTEMBER 1990**



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ORGANIC CHEMICAL MANUFACTURING SECTOR
EFFLUENTS COVERING THE PERIOD FROM
APRIL 1990 TO SEPTEMBER 1990**

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Introduction

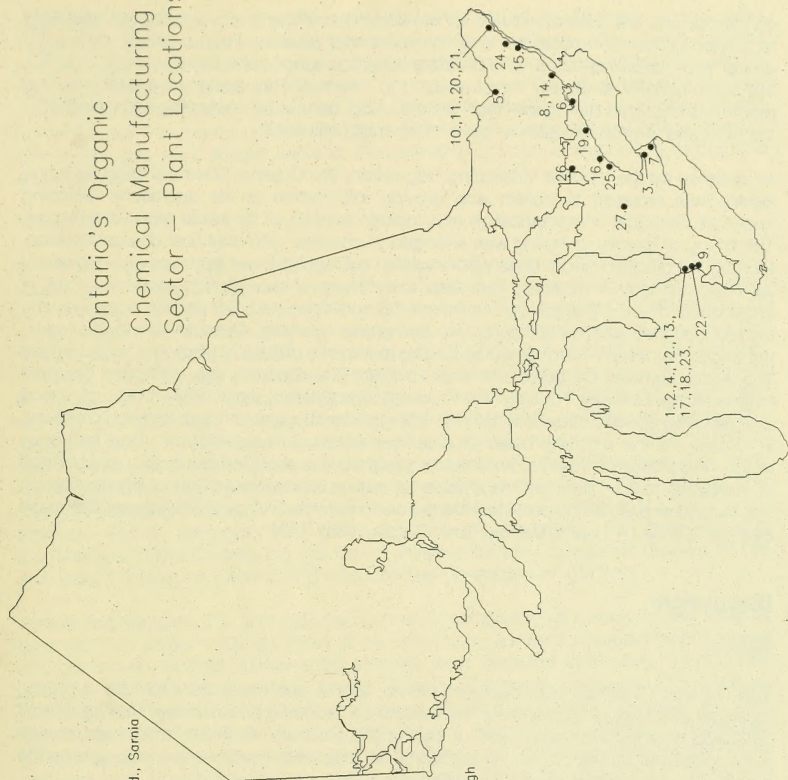
Under the MISA program, the Organic Chemical Manufacturing (OCM) Sector was required to monitor its discharges (both process and cooling waters) for acute lethality to trout and to *Daphnia magna* by conducting laboratory toxicity tests. Specific details on the toxicity testing requirements may be found in the General Effluent Monitoring Regulation (Ontario Regulation 695/88) and the Effluent Monitoring Regulation For The Organic Chemical Manufacturing Sector (Ontario Regulation 209/89). The majority of the OCM Sector companies are located in southern Ontario. An overview of the sector is described in the publication "The Development Document For The Effluent Monitoring Regulation For The Organic Chemical Manufacturing Sector, Env. Ontario 1989".

Toxicity information collected under the MISA effluent monitoring program will form the most comprehensive database available on the Organic Chemical Manufacturing Sector and will be used toward the development of compliance limits for acute toxicity. This report presents the toxicity results of the second six months of self-monitoring, from April 1, 1990 to September 30, 1990, along with the results of Ministry inspection samples that were tested at the Ministry's laboratory in Rexdale. Toxicity tests of some intake waters were also submitted by industry and these have been included in this report. The results of toxicity testing for the first six months of industry monitoring, from October 1989 to March 1990, were reported in "Acute Lethality Data For Ontario's Organic Chemical Manufacturing Sector Effluents Covering The Period From October 1989 To March 1990, Env. Ontario 1991". Although this report is focused on the second six months of monitoring, the Conclusion section does provide a brief overview on the complete year of monitoring.

Background

In general, toxicity tests are used as a rapid technique to assess the potential impact of complex effluents on the aquatic environment. The tests have been designed to answer whether or not an effluent produces an effect on a biological system and the degree of the measured effect. In acute lethality testing, aquatic organisms are exposed to undiluted effluent, and several effluent dilutions, for a fixed period of time. The toxicity test protocols require a 96 hour exposure for trout and a 48 hour exposure for *Daphnia*. For both tests, the number of organisms which have died is the measured parameter. The LC50 or the estimated concentration of effluent that causes 50 % mortality is generally used as the quantitative measure of toxicity. For complex waste water samples, the LC50 measurement is usually expressed as a percentage of effluent volume. For example, a 96 hour LC50 = 35 % can be explained as the percent by volume of effluent required to kill 50 % of the test fish within a 96 hour exposure period. LC50 percentages are inversely related to the degree of toxicity; lower numbers representing greater effect. Effluent samples where no animals die in full strength (100 %) effluent or in any of the diluted

Ontario's Organic Chemical Manufacturing Sector - Plant Locations



- | No. | Name | Location |
|-----|--------------------------------------|----------------|
| 1. | AKZO Chemical Ltd., | Sarnia |
| 2. | Amoco Canada Petroleum Company Ltd., | Sarnia |
| 3. | B.F. Goodrich Canada Inc., | Thorold |
| 4. | BASF Canada Inc., | Sarnia |
| 5. | BASF Fibres Inc., | Amprior |
| 6. | BTI Specialty Resins, | Belleville |
| 7. | Canadian Oxy Chemicals Ltd., | Fort Erie |
| 8. | Celanese Canada Inc., | Millhaven |
| 9. | Chinook Group, | Sombra |
| 10. | Cornwall Chemicals Ltd., | Cornwall |
| 11. | Courtaulds Fibres Canada, | Cornwall |
| 12. | Dow Chemical Canada Inc., | Sarnia |
| 13. | Du Pont Canada Inc., | Corunna |
| 14. | Du Pont Canada Inc., | Kingston |
| 15. | Du Pont Canada Inc., | Maitland |
| 16. | Du Pont Canada Inc., | Whitby |
| 17. | Esso Chemical Canada, | Sarnia |
| 18. | Ethyl Canada Inc., | Corunna |
| 19. | GE Plastics Canada Ltd., | Cobourg |
| 20. | Guardsman Products Ltd., | Cornwall |
| 21. | Marbair Inc., | Cornwall |
| 22. | Novacor Chemicals Ltd., | Mooretown |
| 23. | Polysar Rubber Corporation, | Sarnia |
| 24. | Rohm & Haas Canada Inc., | Morrisburg |
| 25. | Rohm & Haas Canada Inc., | Scarborough |
| 26. | Stepan Canada Inc., | Longford Mills |
| 27. | Uniroyal Chemical Ltd., | Elmira |

concentrations are considered non-lethal. Non-lethal effluents are considered less likely to produce adverse impacts in the environment after dilution. For bioassays where only one or two mortalities occur, and the data does not support the calculation of an LC50, the acute lethality is usually reported as " > 100 % ". This designation indicates that mortalities occurred during the test, but the LC50 cannot be accurately calculated from the data and is probably greater than full strength effluent.

As directed by the Effluent Monitoring Regulation, the Organic Chemical Manufacturing Sector was required to collect and provide information on its operations including analytical chemical characterization and toxicity analysis of its waste water discharges. The timing of toxicity sampling was arranged to coincide with chemical characterization. Monthly full dilution toxicity tests were required by regulation for both species. However, for the trout test, if mortality was less than 3 out of the 10 fish exposed then in subsequent months a single concentration test could be used. For cooling water effluent, the required frequency of sampling and testing was quarterly. All acute lethality testing by the Sector plants were conducted according to Ministry protocols (Protocol To Determine The Acute Lethality Of Liquid Effluents To Fish, Env. Ontario, July 1983 and *Daphnia magna* Acute Lethality Toxicity Test Protocol, Env. Ontario, April 1988). The regulations also required specific information on sampling and testing procedures for each bioassay, in addition to the mortality data. All data was reported in an electronic and hardcopy report. The Ministry's TOXDATA computer program was provided to industry as a method of managing toxicity data and as a route for data submission. Additional information on this computer program is provided in the publication titled " Toxicity Relational Database System TOXDATA User's Manual, Env. Ontario, May 1989".

Discussion

General

The Organic Chemical Manufacturing Sector plants submitted data for 55 sampling locations at a total of 25 plants for the second six months of monitoring. Starting in April 1990 and ending September 1990, a total of 552 trout and *Daphnia* toxicity test results were submitted by the plants. An additional 60 inspection tests were conducted by the Aquatic Toxicity Unit of Environment Ontario.

BTL Specialty Resins, located in Belleville, ceased operation in April, 1990 and were no longer required to monitor under the Regulation. BASF Canada Inc. (Sarnia), Du Pont Canada Inc. (Corunna), Du Pont Canada Inc. (Maitland), Esso Chemical Canada (Sarnia), and Uniroyal Chemical Ltd. (Elmira) voluntarily submitted acute toxicity test results on intake water samples.

The data collected during this six months of monitoring indicated that the majority of the organic chemical sector's effluents were not acutely lethal. Over 82 % of the samples

tested for trout toxicity and 63 % of the samples tested for *Daphnia* toxicity were determined to have been non-lethal by standard testing methods. Most of the samples that were acutely lethal to trout and/or *Daphnia* originated from sites at the following six plants: Cornwall Chemicals Ltd. (Cornwall), Courtaulds Fibres Canada (Cornwall), Du Pont Canada Inc. (Whitby), Ethyl Canada (Corunna), GE Plastics Canada Ltd.(Cobourg) and Rohm & Haas Canada Inc. (Scarborough). All these plants reported that one or more of their discharges were acutely lethal to *Daphnia* and/or trout, at least 50 % of the time when sampled.

Trout Test Results

Of the 277 samples that were tested for acute toxicity to trout, 227 (82.0 %) were not acutely lethal. This is a marginal improvement from the first six months of monitoring when 80.5 % of the samples were reported non-lethal. The effluent samples collected from 10 of the 25 plants were consistently not acutely lethal. Companies included in the non-lethal effluent category were : AKZO Chemicals Ltd.(Sarnia), B.F. Goodrich Canada Inc. (Thorold), BASF Canada Inc. (Sarnia), Celanese Canada Inc. (Millhaven), Du Pont Canada Inc. (Corunna), Esso Chemical Canada (Sarnia), Guardsman Products Ltd. (Cornwall), Morbern Inc. (Cornwall), Novacor Chemicals Ltd. (Mooretown), and Stepan Canada Inc. (Longford Mills). An additional 28 samples, 10.1 % of total, resulted in LC50s > 100 %. Many of these tests had only one fish die during the test and may be interpreted as being not acutely lethal. Eight plants have one or more test results with a LC50 > 100 %. This category included the following companies : Canadian Oxy Chemicals Ltd. (Fort Erie), Chinook Group (Sombra), Du Pont Canada Inc. (Kingston), Du Pont Canada Inc. (Maitland), Ethyl Canada Inc. (Corunna), Polysar Rubber Corporation (Sarnia), Rohm and Haas Canada Inc. (Morrisburg) and Uniroyal Chemical Ltd. (Elmira).

Twenty-two samples, 7.9 % of the total number of samples tested, were acutely-lethal to trout (96 hour LC50 < 100 %). Most of the lethal samples were collected from process and combined effluents. All the lethal samples were collected from seven plants. This category included the following: Amoco Canada Petroleum Company Ltd. (Sarnia), Cornwall Chemicals Limited (Cornwall), Courtaulds Fibres Canada (Cornwall), Du Pont Canada Inc. (Whitby), Dow Chemical Canada Inc. (Sarnia), GE Plastics Canada Ltd. (Cobourg), and Rohm & Haas Canada Inc. (Scarborough). The most lethal samples were sampled from Courtaulds Fibres Canada (Cornwall) where the 96 hour LC50s ranged from 1.5 % to 80.6 %.

Daphnia magna Test Results

Of the 275 samples tested for acute toxicity to *Daphnia magna*, 175 samples (63.6 %) were not acutely lethal. The effluents from; AKZO Chemicals Ltd. (Sarnia), BASF Canada Inc. (Sarnia), Canadian Oxy Chemicals Ltd. (Fort Erie), Celanese Canada Inc. (Millhaven), Du Pont Canada Inc. (Corunna), Esso Chemical Canada (Sarnia), Guardsman Products Ltd. (Cornwall), Morbern Inc. (Cornwall), and Novacor Chemicals Ltd. (Mooretown) were

not acutely lethal to *Daphnia*. An additional 63 samples (23.9 %) had 48 hour LC50s > 100 %. Many of these samples had only one neonate die during the test, and might be interpreted as being not acutely lethal. Seven plants have one or more test results with an LC50 > 100 %. Included in this category were : Amoco Canada Petroleum Company Ltd. (Sarnia), B.F. Goodrich Canada Inc. (Thorold), BASF Fibres Inc. (Arnprior), Dow Chemical Canada Inc. (Sarnia), Polysar Rubber Corporation (Sarnia), Rohm & Haas Canada Inc. (Morrisburg), and Stepan Canada Inc. (Longford Mills).

Thirty-seven of the 275 samples (13.5 %) were acutely lethal to *Daphnia*, generating 48 hour LC50s < 100 %. All the lethal samples were from following ten companies : Cornwall Chemicals Ltd.(Cornwall), Chinook Group (Sombra), Courtaulds Fibres Canada (Cornwall), Du Pont Canada Inc.(Whitby), Du Pont Canada Inc.(Kingston), Du Pont Canada Inc.(Maitland), Ethyl Canada Inc.(Corunna), GE Plastics Canada Ltd. (Cobourg), Rohm & Haas Canada Inc.(Scarborough) and Uniroyal Chemical Ltd. (Elmira) . The effluents from Courtaulds Fibres Canada process outfalls 0100 and 0300 were consistently among the most lethal to *Daphnia* in this sector. The LC50 values for these outfalls ranged from 0.7 % to 40.7 % effluent.

Conclusions

In general, the reporting of toxicity data by the industries went smoothly. The data was usually submitted accurately and according to schedule. Where the Ministry requested industry for data resubmission to correct data entry errors and/or for additional information, the companies complied. Where Ministry audit samples were collected and tested, the results were consistent with results submitted by industry.

The full year of MISA acute toxicity data for the Organic Chemical Manufacturing Sector indicated that the majority of organic chemical plant effluent samples were not acutely lethal. Effluent samples collected from AKZO Chemical Ltd., BASF Canada Inc.(Sarnia), Celanese Canada Inc., Esso Chemical Canada Inc., Guardsman Products Ltd., Morbern Inc., and Novacor Chemicals Ltd. were consistently not acutely lethal to *Daphnia* and trout throughout the monitoring period. Over the full year, only four plants, Courtaulds Fibres Canada, Cornwall Chemicals Company, G E Plastics Canada Ltd., and Rohm & Haas Canada Inc.(Scarborough) were in the category where at least 50 % of the samples collected from a discharge were lethal to *Daphnia* and/or trout. However, the results for Rohm & Haas (Scarborough) were based on only two samples. The plant has since installed equipment to eliminate the discharge.

The toxicity report for the first six-months (October 1989 to March 1990) identified Uniroyal's effluents as consistently lethal to *Daphnia* and causes of the toxicity were not conclusive. The second six month period reported only one sample as acutely lethal to *Daphnia*. The sample collected from the cooling water discharge 0200 on May 22, 1990 produced a LC50 of 39.7 %. Uniroyal reduced its use of municipal (well) water and used

Canagagigue Creek for cooling water between November 27, 1989 and May 22, 1990. The change from municipal to creek water plus storm and drainage effects contributing to the cooling water effluent may reflect the toxic conditions during this period. Ten of the thirteen combined effluent samples collected during the second six-month period were non-lethal and the remaining had LC50s > 100 % effluent. Process changes at the plant eliminated 0600 as a discharge point by sealing it off.

For several of the toxic samples, a quick review of the matching analytical chemistry monitoring data has revealed some probable causes of the observed acute toxicity. Where this was possible, a brief explanation to the probable causes of toxicity are described below. The toxicity tests will detect harmful concentrations of chemical constituents in the effluents. Compliance with "end of pipe" limits for acute toxicity does not necessarily control the potential effects of environmental contamination that can be caused by loading of bioaccumulative substances. These substances are generally non-polar organic chemicals of high molecular weight and low water solubility or metals that can be accumulated in their organic form. For this industrial sector, several of these contaminants have been measured in some effluents at sublethal concentrations. This list includes chlorinated dibenzodioxins, dibenzofurans, tri-alkyl lead and mercury.

Courtaulds Fibres Canada, Cornwall

Courtaulds Fibres Canada produces rayon by treating sulphite pulp with alkali, carbon disulphide and sulfuric acid. The plant effluent is discharged continuously into the St. Lawrence River through diffusers. Historically, the effluent has been assessed as acutely lethal to aquatic life. Effluent toxicity has been caused by the discharge of waste acids, zinc and alkalis used in the process.

Of all the samples tested during the monitoring period, only Courtaulds 0100 and 0300 sewer effluent samples were consistently acutely lethal to both trout and *Daphnia*. The lethality observed in samples collected from control points 0100 and 0300 can be attributed to the high concentrations of zinc, sulphide and extreme pH conditions. *Daphnia* and trout appear to be equally sensitive to Courtaulds effluent. The wastewater discharged through sewer 0100 had a measured pH of 2.0 or lower on the days when sampled for toxicity. Sewer 0300 had a measured pH of 11.0 or higher. This extreme acid or alkali condition, alone would account for the lethality observed in the bioassays. In addition, zinc and sulphide concentrations were at lethal levels and would also have contributed to the effluent toxicity. Sulphide and zinc concentrations were measured as high as 167 ppm and 81 ppm, respectively, on the days when samples were collected for toxicity testing.

Cornwall Chemicals Ltd., Cornwall

Cornwall Chemicals Limited manufactures carbon tetrachloride and carbon disulphide which are sold as feedstock to other industries. Process wastewater is neutralized and passed through a three stage settling pond prior to combining with other industrial discharges before discharging into the St. Lawrence River. The process effluent is consistently acutely lethal to *Daphnia* and only sporadically lethal to trout. Most of the toxicity can be attributed to elevated concentrations of carbon tetrachloride and sulphides. Carbon tetrachloride concentrations were measured as high as 35 ppm when toxicity samples were collected. This concentration is at the lethal threshold for some fish and aquatic invertebrates. Sulphide concentrations were measured as high as 5.5 ppm. Sulphide ions react with the hydrogen ions in water to form hydrogen sulphide. The quantity of hydrogen sulphide formed is dependent on the acidity of the water. The toxicity of sulphide solutions to fish increases as pH decreases. Inorganic sulphides have proved fatal to aquatic life at concentrations between 0.5 and 1.0 ppm, even in neutral solutions.

GE Plastics Canada Ltd., Cobourg

During the period that the MISA monitoring program was carried out (Oct. 1989 to Sept. 1990), GE Plastics Canada Ltd. produced ABS pellets and intermediate resin at their Cobourg facility. However, the resin manufacturing process, which included reacting acrylonitrile, styrene and polybutadiene latex with peroxide initiators, was discontinued in April 1992 as part of a downsizing of the Cobourg manufacturing facilities. The plant continues to produce ABS pellets which are manufactured from resins imported from GE Plastics facilities in the U.S.

During the monitoring year, the process wastewater was sent to primary and secondary treatment prior to discharge into Lake Ontario. This treatment system included a primary "holding" pond, a primary clarifier, a secondary "holding" pond, an aeration basin (biological treatment) and a secondary clarifier. Since the latter part of the MISA monitoring period (June 1990), the treatment system has been modified to include an equalization tank (secondary pond removed) and a tertiary treatment system (dual sand filters). These wastewater treatment processes continue in operation despite the recent downsizing and have resulted in improved effluent quality.

The year of monitoring showed that the effluent samples from GE Plastics Canada Ltd. were lethal the majority of the times when tested with trout. Eight of twelve combined effluent samples were acutely lethal to trout with LC50s ranging from 14.1 % to 80.6 %. The second six-months of monitoring showed an improvement in the quality of the effluent with respect to acute toxicity. Three of the six effluent samples were acutely lethal to trout with LC50s ranging from 25.5 % to 41.8 %. The other samples were non-lethal. *Daphnia*

were less sensitive than trout to this effluent, only one of the twelve samples were acutely lethal. The toxicity of the effluent may be attributed to the high concentrations of ammonia. The Long Term Average (LTA) concentration for total ammonia was 28.0 ppm. for the first six months of the MISA program and the LTA was 12.3 ppm for the second six months.

The data in the Appendix, presents the summaries of the acute lethality results, grouped by company in alphabetic order. These summary pages are part of the complete database, that includes the Toxicity Test Report submitted by industry for each test sample. The complete database is available from Environment Ontario upon request. The results of Ministry inspection tests are also presented in the individual summaries. The comment fields on individual Toxicity Test Reports were entered by the industry's laboratory performing the tests, and may not be consistent across samples and may not necessarily represent the views of the Ministry.

Appendix

COMPANY: AKZO Chemicals Ltd., Sarnia
(28690006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for two trout bioassays, conducted on cooling water samples collected between April and September 1990, were provided by AKZO Chemicals Ltd. Both cooling water samples were not acutely lethal to test fish.

OT cooling water (0100)

05900127 sampled: 06/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900202 sampled: 09/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: AKZO Chemicals Ltd., Sarnia
(28690006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for two Daphnia magna acute lethality toxicity tests conducted on samples of once through cooling water collected between April and September 1990 were submitted by AKZO Chemicals Ltd. of Sarnia. Both samples were not acutely lethal to Daphnia.

OT cooling water (0100)

05900127 sampled: 06/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900202 sampled: 09/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Amoco Canada Petroleum Company Ltd., Sarnia
(104330204)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for nine trout bioassays, conducted on storm water samples collected between April and December 1990, were provided by Amoco Canada Petroleum Canada Limited. One storm water sample was acutely lethal to test fish. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure was 80.2 %. Eight of the ten remaining samples were non-lethal and the other produced a 96 hour LC50 > 100 %. A Ministry audit sample, collected in June, had a LC50 > 100 %.

Storm Water (0100)

03900286	sampled: 04/10/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900351	sampled: 05/01/90	LC50: 80.2 %
95% fid. limits:	78.4 -	81.9 %
comments:		
03900449	sampled: 06/05/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
01900131	sampled: 06/28/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit	
03900594	sampled: 07/17/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900649	sampled: 08/07/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900762	sampled: 09/04/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03900874	sampled: 10/02/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	

Amoco Canada Petroleum Company Ltd. (continued)

03900953 sampled: 11/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03901053 sampled: 12/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Amoco Canada Petroleum Company Ltd., Sarnia
(104330204)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for nine acute lethality Daphnia tests conducted on Storm water samples collected between April and December 1990, were submitted by Amoco Canada Petroleum Canada Ltd. Five were non-lethal and four samples have LC50s of greater than 100 % effluent. A Ministry audit sample, collected in June from the Storm water effluent, was determined acutely lethal with a LC50 of 5.5 %.

Storm Water (0100)

03900286	sampled: 04/10/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900351	sampled: 05/01/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900449	sampled: 06/05/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
02900131	sampled: 06/28/90	LC50: 5.5 %
95% fid. limits:	3.8 -	7.9 %
comments:	MISA Audit; High conductivity	
03900594	sampled: 07/17/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900649	sampled: 08/07/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900762	sampled: 09/04/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03900874	sampled: 10/02/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900953	sampled: 11/06/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	

Amoco Canada Petroleum Company Ltd. (continued)

03901053 sampled: 12/04/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

COMPANY: B.F. Goodrich Canada Inc., Thorold
(370304)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

The data for four trout bioassays, conducted on combined effluent samples collected between April and September 1990, were provided by B.F. Goodrich Canada Incorporated. All four combined effluent samples were not acutely lethal to test fish.

combined effluent (0100)

08900741 sampled: 06/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900791 sampled: 07/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900951 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08901131 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: B.F. Goodrich Canada Inc., Thorold
(370304)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

The data for five Daphnia magna acute lethality toxicity tests conducted on samples of combined effluent collected between April and September 1990 have been submitted by B.F. Goodrich Canada Inc. of Thorold. Three samples were not acutely lethal to Daphnia and the other two samples have LC50s greater than 100%.

combined effluent (0100)

08900512 sampled: 05/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900742 sampled: 06/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900792 sampled: 07/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900952 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08901132 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: BASF Canada Inc., Sarnia
(740407)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for four trout bioassays, conducted on cooling water and intake water samples collected between April and September 1990, were provided by BASF Canada Incorporated. Cooling water samples from both discharge locations, control points 0100 and 0200, were not acutely lethal to test fish. Intake water samples were also non lethal. Two Ministry audit samples, collected from the OT cooling water sewers in July, were also non-lethal.

OT cooling water (0100)

05900102 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01900132 sampled: 07/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

05900173 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water (0200)

05900101 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01900133 sampled: 07/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

05900175 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

BASF Canada Inc. (continued)

intake water (0500)

05900103 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900174 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: BASF Canada Inc., Sarnia
(740407)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for four Daphnia magna acute lethality toxicity tests conducted on samples once through cooling water (outfalls #100 and 200) collected between April and September 1990 have been submitted by BASF Canada Inc. of Sarnia. For both cooling water discharges, two of the three samples were non-lethal while the remaining had a LC50 > 100 % effluent. Both intake water samples were non-lethal. Ministry audit samples, collected from OT cooling water in July, had LC50s > 100 %.

OT cooling water (0100)

05900102 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900132 sampled: 07/04/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900173 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water (0200)

05900101 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900133 sampled: 07/04/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900175 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

BASF Canada Inc. (continued)

intake water (0500)

05900103 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900174 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Canadian Oxy Chemicals Ltd., Fort Erie
(1590009)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

The data for two bioassays conducted on samples of once through cooling water collected between April and September 1990 were submitted by Canadian Oxy Chemicals Ltd. of Fort Erie. Both samples were not acutely lethal to Daphnia.

OT cooling water (0100)

03900369 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900687 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

COMPANY: Canadian Oxy Chemicals Ltd., Fort Erie
(1590009)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

The data for two trout bioassays, conducted on two cooling water samples collected between April and September 1990, were provided by Canadian Oxy Chemicals Limited. One cooling water sample had a 96 hour LC50 > 100 %, while the other sample was not acutely lethal to test fish.

OT cooling water (0100)

03900369 sampled: 05/07/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; 5% mort. @ 100%

03900687 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non lethal

COMPANY: Celanese Canada Inc., Millhaven
(1730001)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for twenty trout bioassays, conducted on combined effluent samples collected from discharge pipe # 100, 200, and 300 between April and September 1990, were provided by Celanese Canada Incorporated. All twenty samples were not acutely lethal to trout.

combined effluent (0100)

11900044 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: through charcoal and UV

11900002 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap water through charcoal and uv

11900051 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: through charcoal and UV

11900047 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: through charcoal and UV

11900032 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap through Charcoal and UV

11900036 sampled: 08/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap through charcoal and UV

11900039 sampled: 09/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Water through charcoal and UV

combined effluent (0200)

11900045 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: trough charcoal and UV

11900050 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: through charcoal and UV

Celanese Canada Inc. (continued)

11900048 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Through charcoal filter and UV

11900033 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap through charcoal and UV

11900037 sampled: 08/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap through charcoal and UV

11900040 sampled: 09/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Water through charcoal and UV

combined effluent (0300)

11900004 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap water through charcoal and UV

11900046 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: through charcoal and UV

11900053 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: through charcoal and UV

11900049 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: through charcoal and UV

11900034 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap through charcoal and UV

11900038 sampled: 08/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap through charcoal and UV

11900041 sampled: 09/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Water through charcoal and UV

COMPANY: Celanese Canada Inc., Millhaven
(1730001)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for seventeen *Daphnia magna* acute lethality toxicity tests conducted on samples collected from three combined effluent outfalls (# 100, 200 ,300) between April and September 1990 were submitted by Celanese Canada Inc. of Millhaven. All seventeen samples were not acutely lethal to *Daphnia*.

combined effluent (0100)

11900007 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

11900044 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

11900051 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

11900047 sampled: 06/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

11900032 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

11900036 sampled: 08/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent (0200)

11900054 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

11900008 sampled: 04/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

11900050 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Celanese Canada Inc. (continued)

11900048	sampled: 06/05/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
11900033	sampled: 07/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
11900037	sampled: 08/07/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
combined effluent	(0300)	
11900009	sampled: 04/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
11900055	sampled: 04/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
11900053	sampled: 05/08/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
11900049	sampled: 06/05/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
11900034	sampled: 07/03/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
11900038	sampled: 08/07/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		

COMPANY: Chinook Group, Sombra
(5600002)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six trout bioassays, conducted on combined effluent samples collected between April and September 1990, were provided by Chinook Chemicals Company. Five of six combined effluent samples were not acutely lethal to test fish. The remaining sample had a 96 hour LC50 of >100 %. A Ministry audit sample, collected in July from the combined effluent, was non-lethal.

combined effluent (0100)

03900308 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal; single concentration test

03900416 sampled: 05/22/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Lethal; 100% mort. @ 100% effluent conc.

03900498 sampled: 06/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900141 sampled: 07/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900635 sampled: 07/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900713 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900800 sampled: 09/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

COMPANY: Chinook Group, Sombra
(5600002)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between April and September 1990 were submitted by Chinook Chemicals Company of Sombra. One sample was not acutely lethal to *Daphnia*, three samples had LC50s greater than 100%, and two samples were acutely lethal to *Daphnia*. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the two days exposure were 4.1 % and 65.5 % effluent. A Ministry audit sample, collected in July from the combined effluent, was non-lethal.

combined effluent (0100)

03900308	sampled: 04/17/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900416	sampled: 05/22/90	LC50: 4.1 %
95% fid. limits:	2.9 -	5.5 % slope: 4.0
comments:	Lethal	
03900498	sampled: 06/19/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
02900141	sampled: 07/11/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit; High Conductivity	
03900635	sampled: 07/24/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900713	sampled: 08/21/90	LC50: 65.5 %
95% fid. limits:	50.3 -	85.1 % slope: 5.5
comments:		
03900800	sampled: 09/11/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	

COMPANY: Cornwall Chemicals Limited, Cornwall
(33050006)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for six trout bioassays, conducted on process effluent samples collected between April and September 1990, were provided by Cornwall Chemicals Limited. One of the samples, collected from control point 0100, was acutely lethal to test fish. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure was 63.3 %. Four of the remaining samples were determined not acutely lethal to test fish and the other produced a 96 hour LC50 > 100 %. A Ministry audit sample, collected in April, was acutely lethal with a LC50 of 80.6 %.

process effluent (0100)

06900462 sampled: 04/02/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

01900064 sampled: 04/09/90 LC50: 80.6 %
95% fid. limits: 65.0 - 100.0 %
comments: MISA Audit

06900568 sampled: 05/07/90 LC50: 63.3 %
95% fid. limits: 57.2 - 69.9 %
comments: 70% MORTALITY IN 65% TEST CONCENTRATION

06900667 sampled: 06/05/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 10% MORTALITY IN 30% AND 65% CONCENTRATIONS

06900833 sampled: 07/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06901103 sampled: 08/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06901320 sampled: 09/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

COMPANY: Cornwall Chemicals Limited, Cornwall
(33050006)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of process effluent collected between April and September 1990 were submitted by Cornwall Chemicals Limited of Sarnia. Four of six samples were acutely lethal to *Daphnia*. Statistically, the percentage effluent required to kill 50 % of the test *Daphnia* by the end of two days exposure ranged from 22.2 % to 71.7 % effluent. Of the remaining samples, one was non-lethal and the other had a LC50 of greater than 100 %. A Ministry audit sample, collected in April, was also acutely lethal with a LC50 of 23.8 %.

process effluent (0100)

06900463 sampled: 04/02/90 LC50: 71.7 %
95% fid. limits: 60.6 - 88.2 %
comments: 70% MORTALITY IN FULL STRENGTH EFFLUENT

02900064 sampled: 04/09/90 LC50: 23.8 %
95% fid. limits: 20.5 - 27.6 %
comments: MISA Audit; Low pH; High Conductivity

06900569 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900668 sampled: 06/05/90 LC50: 37.0 %
95% fid. limits: 33.9 - 40.3 %
comments: 10% MORTALITY IN THE 30% CONCENTRATION

06900837 sampled: 07/03/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 40% MORTALITY IN FULL STRENGTH EFFLUENT

06901104 sampled: 08/07/90 LC50: 22.2 %
95% fid. limits: 16.4 - 28.6 % slope: 4.1
comments: 40% MORTALITY IN 20% TEST CONCENTRATION.

06901321 sampled: 09/04/90 LC50: 29.5 %
95% fid. limits: 25.5 - 33.9 %
comments: 60% MORTALITY IN 30% TEST CONCENTRATION.

COMPANY: Courtaulds Fibres Canada, Cornwall
(1900000)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for thirty-five trout bioassays, conducted on effluent samples collected between April and September 1990, provided by Courtaulds Fibres Canada. All eleven samples of process effluent collected from control point 0100 and 0300 were acutely lethal to test fish. For samples collected from 0100, statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 1.5 %, 1.9 %, 51.0 %, 3.3 %, and 1.6 %. For samples collected from 0300, statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 28.3 %, 14.1 %, 16.6 %, 10.0 %, 14.1 % and 10.5 %. Nineteen of the twenty-four combined effluent samples were not acutely lethal. Three of the remaining samples produced LC50s > 100 % and the two other samples were acutely lethal to test fish. A sample of combined effluent discharge from pipe # 500 produced a 96 hour LC50 80.65 %. A sample of combined effluent discharge from pipe # 800 produced a 96 hour LC50 51.5 %. Two of three Ministry audit samples, collected from combined effluents, produced LC50s > 100 % and the remaining sample was non-lethal.

process effluent (0100)

03900315	sampled: 04/17/90	LC50:	1.5 %
95% fid. limits:	0.9 -	2.3 % slope:	3.2
comments:			
03900407	sampled: 05/15/90	LC50:	1.9 %
95% fid. limits:	1.1 -	2.9 % slope:	3.5
comments: Lethal			
03900507	sampled: 06/19/90	LC50:	51.0 %
95% fid. limits:	40.0 -	65.0 %	
comments:			
03900607	sampled: 07/17/90	LC50:	3.3 %
95% fid. limits:	2.4 -	4.3 % slope:	7.1
comments:			
03900720	sampled: 08/21/90	LC50:	1.6 %
95% fid. limits:	1.1 -	2.2 % slope:	3.9
comments:			

Courtaulds Fibres Canada (continued)

03900860 sampled: 09/26/90 LC50: 8.1 %
95% fid. limits: 5.5 - 12.0 % slope: 4.6
comments:

pr 200

process effluent (0300)

03900316 sampled: 04/17/90 LC50: 28.3 %
95% fid. limits: 20.0 - 40.0 %
comments:

03900408 sampled: 05/15/90 LC50: 14.1 %
95% fid. limits: 10.0 - 20.0 %
comments: Lethal

03900508 sampled: 06/19/90 LC50: 16.6 %
95% fid. limits: 12.6 - 21.7 % slope: 5.5
comments:

03900608 sampled: 07/17/90 LC50: 10.0 %
95% fid. limits: 7.7 - 12.8 % slope: 5.5
comments:

03900722 sampled: 08/21/90 LC50: 14.1 %
95% fid. limits: 10.0 - 20.0 %
comments:

03900861 sampled: 09/26/90 LC50: 10.5 %
95% fid. limits: 6.8 - 16.0 % slope: 3.7
comments:

combined effluent (0500)

03900311 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900405 sampled: 05/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900509 sampled: 06/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900604 sampled: 07/17/90 LC50: 80.6 %
95% fid. limits: 65.0 - 100.0 %
comments:

Courtaulds Fibres Canada (continued)

03900719 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900211 sampled: 09/25/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900862 sampled: 09/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

combined effluent (0600)

03900312 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900406 sampled: 05/15/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 5% mortality @ 100% eff.; single conc. test

03900510 sampled: 06/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration test; non-lethal

03900605 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900721 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

01909212 sampled: 09/25/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900863 sampled: 09/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Conc. Test; 8% mort. @ 100% eff. conc.

combined effluent (0700)

03900314 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900404 sampled: 05/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

Courtaulds Fibres Canada. (continued)

03900511 sampled: 06/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900609 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900717 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

01900213 sampled: 09/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900864 sampled: 09/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

combined effluent (0800)

03900313 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900403 sampled: 05/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900512 sampled: 06/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900606 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900718 sampled: 08/21/90 LC50: 51.5 %
95% fid. limits: 40.6 - 65.2 % slope: 4.9
comments:

03900865 sampled: 09/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Courtaulds Fibres Canada, Cornwall
(1900000)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for thirty-four *Daphnia magna* acute lethality toxicity tests conducted on effluent samples collected between April and September 1990 were submitted by Courtaulds Fibres Canada of Cornwall. Statistically, the percentage effluent required to kill 50 % of the test *Daphnia* by the end of two days exposure ranged from .7 % to 40.8 % effluent. Twenty-four samples were collected from the four combined effluent discharge sites and were tested for acute toxicity. Only one of the samples, from discharge # 800 , was acutely lethal. The sample had a LC50 of 40.8 % effluent. Of the remaining samples, thirteen were non-lethal and ten had LC50s > 100 % effluent. Two of three Ministry audit samples, collected from combined effluents were non-lethal, and the remaining had a LC50 >100 %.

process effluent (0100)

03900315	sampled: 04/17/90	LC50:	1.9 %
95% fid. limits:	0.9 -	3.9 % slope:	1.5
comments:			
03900407	sampled: 05/15/90	LC50:	2.0 %
95% fid. limits:	1.5 -	2.5 % slope:	7.8
comments: lethal			
03900507	sampled: 06/19/90	LC50:	40.7 %
95% fid. limits:	31.8 -	52.0 % slope:	5.7
comments:			
03900607	sampled: 07/17/90	LC50:	4.8 %
95% fid. limits:	3.5 -	6.4 % slope:	3.5
comments:			
03900720	sampled: 08/21/90	LC50:	0.7 %
95% fid. limits:	0.5 -	0.9 % slope:	5.0
comments:			
03900860	sampled: 09/26/90	LC50:	2.6 %
95% fid. limits:	1.8 -	3.3 % slope:	4.8
comments:			

Courtaulds Fibres Canada (continued)

process effluent (0300)

03900316	sampled: 04/17/90	LC50:	8.8 %
	95% fid. limits: 6.0 -	13.0 %	
	comments:		
03900408	sampled: 05/15/90	LC50:	1.7 %
	95% fid. limits: 1.2 -	2.3 % slope:	4.1
	comments: lethal		
03900508	sampled: 06/19/90	LC50:	2.4 %
	95% fid. limits: 1.6 -	3.1 % slope:	4.1
	comments:		
03900608	sampled: 07/17/90	LC50:	7.8 %
	95% fid. limits: 5.9 -	10.4 % slope:	3.9
	comments:		
03900722	sampled: 08/21/90	LC50:	1.4 %
	95% fid. limits: 1.0 -	2.0 % slope:	3.1
	comments:		
03900861	sampled: 09/26/90	LC50:	4.2 %
	95% fid. limits: 3.0 -	6.0 %	
	comments:		

combined effluent (0500)

03900311	sampled: 04/17/90	LC50:	>100 %
	95% fid. limits: 0.0 -	0.0 %	
	comments: LC50 >100		
03900405	sampled: 05/15/90	non-lethal	
	95% fid. limits: 0.0 -	0.0 %	
	comments: Non lethal		
03900509	sampled: 06/19/90	LC50:	>100 %
	95% fid. limits: 0.0 -	0.0 %	
	comments: LC50 >100		
03900604	sampled: 07/17/90	non-lethal	
	95% fid. limits: 0.0 -	0.0 %	
	comments: Non lethal		
03900719	sampled: 08/21/90	LC50:	>100 %
	95% fid. limits: 0.0 -	0.0 %	
	comments: LC50 >100		

Courtaulds Fibres Canada (continued)

02900211 sampled: 09/25/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900862 sampled: 09/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

combined effluent (0600)

03900312 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900406 sampled: 05/15/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

03900510 sampled: 06/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900605 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900721 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900212 sampled: 09/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900863 sampled: 09/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

combined effluent (0700)

03900314 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900404 sampled: 05/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900511 sampled: 06/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

Courtaulds Fibres Canada (continued)

03900609 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900717 sampled: 08/21/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

02900213 sampled: 09/25/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Low initial pH; Non-lethal

03900864 sampled: 09/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

combined effluent (0800)

03900313 sampled: 04/17/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900403 sampled: 05/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900512 sampled: 06/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900606 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900718 sampled: 08/21/90 LC50: 40.8 %
95% fid. limits: 26.8 - 62.0 % slope: 2.2
comments:

03900865 sampled: 09/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

COMPANY: Dow Chemical Canada Inc., Sarnia
(910109)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for forty-two trout bioassays, conducted on combined effluent and once through cooling water effluent samples collected between April and September 1990, were provided by Dow Chemical Canada Inc. All thirty six of these samples were not acutely lethal to test fish. In addition, six trout bioassays were conducted on process effluent (1200) samples during the same period. Five of these samples were non lethal while the remaining was acutely lethal. Statistically, the percentage effluent required to kill 50 % of the test fish in 96 hours was 68.8 %.

combined effluent (0200)

03900279 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900383 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900491 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900573 sampled: 07/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900678 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900790 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Dow Chemical Canada Inc. (continued)

OT cooling water (0300)

03900276 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900492 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900789 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

combined effluent (0500)

03900274 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900384 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900490 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900574 sampled: 07/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900675 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900788 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

combined effluent (0600)

03900280 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900385 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

Dow Chemical Canada Inc. (continued)

03900489 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900575 sampled: 07/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900676 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900787 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

combined effluent (0700)

03900278 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900386 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900486 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900576 sampled: 07/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900674 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900786 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

combined effluent (0900)

03900275 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900387 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

Dow Chemical Canada Inc. (continued)

03900487 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900577 sampled: 07/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900677 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900785 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

OT cooling water (1000)

03900277 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900488 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900784 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Dow Chemical Canada Inc. (continued)

process effluent (2100)

03900679 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900705 sampled: 08/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900732 sampled: 08/27/90 LC50: 68.8 %
95% fid. limits: 55.9 - 84.3 % slope: 8.0
comments:

03900763 sampled: 09/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900783 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900814 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Dow Chemical Canada Inc., Sarnia
(910109)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for forty-two *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent collected between April and September 1990 were submitted by Dow Chemical Canada Inc. of Sarnia. For the five combined effluent discharge points, thirty-three samples were collected and tested for acute toxicity to *Daphnia*. Twenty of these samples were not acutely lethal, and the remaining thirteen samples had LC50s > 100 % effluent. Three samples were collected from each of two once through cooling water discharge sites. All six samples were non-lethal. Five of the six process effluent samples were not acutely lethal and the remaining had a LC50 > 100 % effluent.

combined effluent (0200)

03900279	sampled: 04/09/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments: Non-lethal		
03900383	sampled: 05/14/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:		
03900491	sampled: 06/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments: Non lethal		
03900573	sampled: 07/09/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments: Non-lethal		
03900678	sampled: 08/13/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments: Non-lethal		
03900790	sampled: 09/10/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments: Non-lethal		

Dow Chemical Canada Inc. (continued)

OT cooling water (0300)

03900276 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900492 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900789 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

combined effluent (0500)

03900274 sampled: 04/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900384 sampled: 05/14/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

03900490 sampled: 06/18/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03900574 sampled: 07/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900675 sampled: 08/13/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900788 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

combined effluent (0600)

03900280 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900385 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Dow Chemical Canada Inc. (continued)

03900489 sampled: 06/18/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03900575 sampled: 07/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900676 sampled: 08/13/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900787 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

combined effluent (0700)

03900278 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900386 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900486 sampled: 06/18/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03900576 sampled: 07/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900674 sampled: 08/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900786 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

combined effluent (0900)

03900275 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900387 sampled: 05/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Dow Chemical Canada Inc. (continued)

03900487 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900577 sampled: 07/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900677 sampled: 08/13/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900785 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

OT cooling water (1000)

03900277 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900488 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900784 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Dow Chemical Canada Inc. (continued)

process effluent (2100)

03900679 sampled: 08/13/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900705 sampled: 08/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900732 sampled: 08/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900763 sampled: 09/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900783 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900814 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Du Pont Canada Inc., Corunna
(80309)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six bioassays, conducted on combined effluent samples collected between April 1990 and September 1990 were provided by Du Pont Canada Incorporated. All six samples were not acutely lethal to test fish.

intake water

(0100)

05900081 sampled: 04/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900107 sampled: 05/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900132 sampled: 06/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900153 sampled: 07/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900168 sampled: 08/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900193 sampled: 09/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

(0200)

05900082 sampled: 04/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900106 sampled: 05/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900131 sampled: 06/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Du Pont Canada Inc. (continued)

05900152 sampled: 07/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900169 sampled: 08/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900192 sampled: 09/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Du Pont Canada Inc., Corunna
(80309)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six *Daphnia magna* acute lethality toxicity test conducted on samples combined effluent collected between April and September 1990 were submitted by Du Pont Canada Inc. of Corunna. All six samples of combined effluent were not acutely lethal.

intake water (0100)

05900081 sampled: 04/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900107 sampled: 05/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900132 sampled: 06/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900153 sampled: 07/11/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900168 sampled: 08/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900193 sampled: 09/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent (0200)

05900082 sampled: 04/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900106 sampled: 05/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900131 sampled: 06/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Du Pont Canada Inc. (continued)

05900152 sampled: 07/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900169 sampled: 08/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900192 sampled: 09/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Du Pont Canada Inc., Kingston
(80101)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for twelve trout bioassays, conducted on combined effluent samples collected between April 1990 and September 1990, were provided by Du Pont Canada Incorporated. Nine of the twelve samples were not acutely lethal to the test fish. The remaining three samples had LC50s of greater than 100 % effluent.

combined effluent (0700)

03900320 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900395 sampled: 05/15/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

03900518 sampled: 06/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900612 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900702 sampled: 08/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900833 sampled: 09/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Conc. test; 100% mort @100% eff. conc.

Du Pont Canada Inc. (continued)

combined effluent (1100)

03900321 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900396 sampled: 05/15/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

03900519 sampled: 06/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900613 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900703 sampled: 08/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900832 sampled: 09/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

COMPANY: Du Pont Canada Inc., Kingston
(80101)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for twelve Daphnia magna acute lethality toxicity tests were conducted on samples of combined effluent collected between April and September 1990 were submitted by DuPont Canada Inc. of Kingston. Five of six samples from combined effluent #700 were not lethal to Daphnia. The remaining sample was lethal to Daphnia and its 48 hour LC50 was estimated to be between 50.0 % and 100 %. Four of six samples collected from combined effluent # 1100 were not acutely lethal, while the other two samples have LC50s > 100 % effluent.

combined effluent (0700)

03900320 sampled: 04/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900395 sampled: 05/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900518 sampled: 06/19/90 LC50: 50.0 - 100.0 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 Range

03900612 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900702 sampled: 08/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900833 sampled: 09/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Du Pont Canada Inc. (continued)

combined effluent (1100)

03900321 sampled: 04/17/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900396 sampled: 05/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900519 sampled: 06/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900613 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900703 sampled: 08/15/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900832 sampled: 09/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Du Pont Canada Inc., Maitland
(80002)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for six trout bioassays, conducted on combined effluent and intake water samples collected between April 1990 and September 1990, were provided by Du Pont Canada Incorporated. All of the samples, except for one, were not acutely lethal to test fish. One sample collected from the combined effluent had a LC50 of > 100 % effluent. A Ministry audit sample, collected in September, was non-lethal.

intake water (1000)

03900410 sampled: 05/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900760 sampled: 08/29/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

combined effluent (1100)

03900297 sampled: 04/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900411 sampled: 05/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900517 sampled: 06/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

Du Pont Canada Inc. (continued)

03900614 sampled: 07/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900759 sampled: 08/29/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

01900191 sampled: 09/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900866 sampled: 09/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

COMPANY: Du Pont Canada Inc., Maitland
(80002)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for six *Daphnia magna* acute lethality toxicity tests conducted on samples combined effluent collected between April and September 1990 were submitted by Du Pont Canada Inc. of Maitland. Two of six samples of combined effluent were acutely lethal to *Daphnia*. LC50s for these sample were 42.0 % and 39.9 %. Of the remaining samples, two were not acutely lethal and two had LC50s > 100 % effluent. A Ministry audit sample, collected in September, was non-lethal.

intake water (1000)

03900410 sampled: 05/16/90 LC50: 46.2 %
95% fid. limits: 26.2 - 81.6 % slope: 1.6
comments: Lethal

03900760 sampled: 08/29/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

combined effluent (1100)

03900297 sampled: 04/11/90 LC50: 42.0 %
95% fid. limits: 31.4 - 57.2 % slope: 4.0
comments:

03900411 sampled: 05/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03900517 sampled: 06/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

Du Pont Canada Inc. (continued)

03900614 sampled: 07/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900759 sampled: 08/29/90 LC50: 39.9 %
95% fid. limits: 27.9 - 56.8 % slope: 2.8
comments:

02900191 sampled: 09/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900866 sampled: 09/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Du Pont Canada Inc., Whitby
(80408)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for twenty-one trout bioassays, conducted on combined effluent samples and once through cooling water effluent samples collected between April 1990 and December 1990, were provided by Du Pont Canada Incorporated. Six of the nine combined effluent samples were not acutely lethal to test fish. Of the remaining samples, two were acutely lethal with LC50s of 51.0 and 75.0 % and the other sample had a LC50 > 100 %. Nine of twelve once through cooling water effluent samples were not acutely lethal. The other three samples had LC50s > 100 % effluent. A Ministry audit sample, collected in September from the combined effluent discharge was acutely lethal with a LC50 of 73.8 %. Two of four Ministry audit samples collected from the OTCW effluent, had LC50 > 100 % and the remaining samples were non-lethal.

Combined Effluent (0200)

03900326 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900422 sampled: 05/29/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900530 sampled: 06/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900629 sampled: 07/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900758 sampled: 08/30/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Conc. Test; Lethal 100% mort. @100%eff

01900201 sampled: 09/18/90 LC50: 73.8 %
95% fid. limits: 66.3 - 82.1 %
comments: MISA Audit

Du Pont Canada Inc. (continued)

03900844 sampled: 09/25/90 LC50: 51.0 %
 95% fid. limits: 40.0 - 65.0 %
 comments:

03900934 sampled: 10/30/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03901027 sampled: 11/27/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03901078 sampled: 12/18/90 LC50: 75.0 %
 95% fid. limits: 61.4 - 91.4 % slope: 8.1
 comments:

OTCW (0300)

03900327 sampled: 04/24/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: non lethal

03900630 sampled: 07/24/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Single Concentration Test; non-lethal

01900202 sampled: 09/18/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: MISA Audit

03900935 sampled: 10/30/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Single Concentration Test; non-lethal

OTCW (0400)

03900323 sampled: 04/24/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: non lethal

03900631 sampled: 07/24/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

01900203 sampled: 09/18/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: MISA Audit

03900936 sampled: 10/30/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

Du Pont Canada Inc. (continued)

OTCW

(0500)

03900322 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900632 sampled: 07/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Accidental mortality

01900204 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non Lethal

03900937 sampled: 10/30/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

OTCW

(0600)

03900324 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900633 sampled: 07/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

01900205 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non Lethal

03900938 sampled: 10/30/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Du Pont Canada Inc., Whitby
(80408)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for twenty-one bioassays conducted on samples collected from the combined effluent and once through cooling water discharges between April and December 1990 were submitted by Du Pont Canada Incorporated. Six of nine combined effluent (#0200) samples were acutely lethal to Daphnia. Statistically, the percentage effluent required to kill 50 % of the test animals by the end of the two days exposure ranged from 16.2 % to 100 %. Two of three samples were non-lethal. An additional sample collected and tested by the Ministry of the Environment was also lethal to Daphnia. Three of the twelve once through cooling water samples were acutely lethal to Daphnia. Samples collected in April 1990 from discharge pipe # 400, 500 and 600 produced 48 hour LC50s 30.8 %, 30.2 % and 35.3 % respectively. Of the remaining samples, six were not acutely lethal and three had LC50s > 100 % effluent.

Combined Effluent (0200)

03900326 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900422 sampled: 05/29/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900530 sampled: 06/26/90 LC50: 50.0 - 100.0 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 Range 50 - 100

03900629 sampled: 07/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900758 sampled: 08/30/90 LC50: 21.6 %
95% fid. limits: 17.2 - 27.2 % slope: 5.9
comments:

02900201 sampled: 09/18/90 LC50: 41.1 %
95% fid. limits: 38.5 - 43.0 %
comments: MISA Audit

Du Pont Canada Inc. (continued)

03900844 sampled: 09/25/90 LC50: 18.0 %
95% fid. limits: 13.0 - 25.0 %
comments:

03900934 sampled: 10/30/90 LC50: 50.0 - 100.0 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 Range

03901027 sampled: 11/27/90 LC50: 63.7 %
95% fid. limits: 48.5 - 83.4 % slope: 5.8
comments:

03901078 sampled: 12/18/90 LC50: 35.4 %
95% fid. limits: 25.0 - 50.0 %
comments:

OTCW (0300)

03900327 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900630 sampled: 07/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Conc. Test; 12.5% mort. @100% eff.conc

02900202 sampled: 09/18/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900935 sampled: 10/30/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

OTCW (0400)

03900323 sampled: 04/24/90 LC50: 30.8 %
95% fid. limits: 24.2 - 39.0 % slope: 6.0
comments: Lethal

03900631 sampled: 07/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

02900203 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900936 sampled: 10/30/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Du Pont Canada Inc. (continued)

OTCW

(0500)

03900322 sampled: 04/24/90 LC50: 30.2 %
95% fid. limits: 17.7 - 51.4 % slope: 2.1
comments: Lethal

03900632 sampled: 07/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

02900204 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

03900937 sampled: 10/30/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

OTCW

(0600)

03900324 sampled: 04/24/90 LC50: 35.3 %
95% fid. limits: 25.0 - 50.0 %
comments: Lethal

03900633 sampled: 07/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

02900205 sampled: 09/18/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900938 sampled: 10/30/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Esso Chemical Canada, Sarnia
(70201)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six trout bioassays, conducted on combined effluent samples collected between April 1990 and September 1990, were provided by Esso Chemical Canada. All six combined effluent (control point 0300) samples were not acutely lethal to test fish. A Ministry audit sample, collected in May, was non-lethal.

intake water	(0100)	
05900091	sampled: 04/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900095	sampled: 05/02/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:		
05900126	sampled: 06/06/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900145	sampled: 07/04/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900163	sampled: 08/01/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900199	sampled: 09/19/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
combined effluent	(0300)	
05900092	sampled: 04/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900096	sampled: 05/01/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		

Esso Chemical Canada (continued)

05900094 sampled: 05/02/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900125 sampled: 06/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900144 sampled: 07/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900164 sampled: 08/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900198 sampled: 09/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Esso Chemical Canada, Sarnia
(70201)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between April and September 1990 were submitted by Esso Chemical Canada of Sarnia. All combined effluent samples were not acutely lethal to *Daphnia*. A Ministry audit sample, collected in May, was also non-lethal.

intake water (0100)

05900091 sampled: 04/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900094 sampled: 05/02/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900126 sampled: 06/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900145 sampled: 07/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900163 sampled: 08/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900199 sampled: 09/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent (0300)

05900092 sampled: 04/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900096 sampled: 05/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

Esso Chemical Canada (continued)

05900095 sampled: 05/02/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900125 sampled: 06/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900144 sampled: 07/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900164 sampled: 08/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900198 sampled: 09/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Ethyl Canada Inc., Corunna
(120006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six trout bioassays, conducted on combined effluent samples collected between April 1990 and September 1990, were provided by Ethyl Canada Incorporated. Five of the six samples of combined effluent, collected from control point 0100, were not acutely lethal to test fish. The remaining sample had a LC50 > 100 % effluent. A Ministry audit sample, collected in June, had a LC50 > 100 %.

combined effluent (0100)

05900080 sampled: 04/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900112 sampled: 05/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900130 sampled: 06/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01900118 sampled: 06/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900151 sampled: 07/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900176 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900191 sampled: 09/11/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Ethyl Canada Inc., Corunna
(120006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between April and September 1990 was submitted by Ethyl Canada Inc. of Corunna. Two of the six samples were not acutely lethal to *Daphnia*. Three of the samples were acutely lethal to *Daphnia*. Statistically, the percentage effluent required to kill 50 % of the *Daphnia* by the end of the two day exposure were 32.2 %, 18.9 % and 15.0 %. One sample had a LC50 > 100 % effluent. A Ministry audit sample, collected in June, was non-lethal.

combined effluent (0100)

05900080 sampled: 04/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900112 sampled: 05/15/90 LC50: 32.2 %
95% fid. limits: 26.4 - 39.4 % slope: 7.4
comments:

05900130 sampled: 06/12/90 LC50: 18.9 %
95% fid. limits: 14.7 - 24.4 %
comments:

02900118 sampled: 06/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900151 sampled: 07/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900176 sampled: 08/14/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900191 sampled: 09/11/90 LC50: 15.0 %
95% fid. limits: 11.6 - 19.4 %
comments:

COMPANY: GE Plastics Canada Ltd., Cobourg
(600007)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for eight trout bioassays, conducted on combined effluent and once through cooling water samples collected between April and September 1990, were provided by GE Plastics Canada Limited. Three of the six combined effluent samples were acutely lethal to test fish. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 25.5, 39.0 and 41.8 %. The other three combined effluent samples were non-lethal. One of the two samples of once through cooling water was non-lethal and the remaining had a LC50 > 100%. Two Ministry audit samples, collected in June from the once through cooling water effluent and from the combined effluent discharge were non-lethal.

combined effluent (0100)

06900505	sampled: 04/10/90	LC50:	25.5 %
	95% fid. limits:	20.5 - 31.2 %	
	comments:	70% MORTALITY IN 30% TEST CONCENTRATION	
06900562	sampled: 05/08/90	LC50:	39.0 %
	95% fid. limits:	30.0 - 50.0 %	
	comments:	100% MORTALITY IN 50% TEST CONCENTRATION	
06900718	sampled: 06/12/90	LC50:	41.8 %
	95% fid. limits:	37.9 - 46.1 %	
	comments:	80% MORTALITY IN THE 50% CONCENTRATION	
01900126	sampled: 06/26/90	non-lethal	
	95% fid. limits:	0.0 - 0.0 %	
	comments:	MISA Audit; Non-lethal	
06900864	sampled: 07/10/90	non-lethal	
	95% fid. limits:	0.0 - 0.0 %	
	comments:	NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED	
06901143	sampled: 08/14/90	non-lethal	
	95% fid. limits:	0.0 - 0.0 %	
	comments:	NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED	
06901368	sampled: 09/10/90	non-lethal	
	95% fid. limits:	0.0 - 0.0 %	
	comments:	NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED	

GE Plastics Canada Ltd. (continued)

OT cooling water (0400)

06900503 sampled: 04/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

01900127 sampled: 06/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

06900966 sampled: 07/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 10% MORTALITY IN THE 50% CONCENTRATION

COMPANY: GE Plastics Canada Ltd., Cobourg
(600007)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for eight *Daphnia magna* acute lethality toxicity tests conducted on samples of once through cooling water and combined effluent collected between April and September 1990, were submitted by G.E. Plastics Canada Ltd. of Cobourg.

One of the six samples of once through cooling water was toxic to *Daphnia*. Statistically, the percentage effluent required to kill 50 % of the test animals by the end of the two days exposure was 29.4 %. The other five samples were non-lethal.

One of two once through cooling water samples was non-lethal to *Daphnia* and the other sample had a LC50 > 100 % effluent.

A Ministry audit sample collected from OT cooling water in June, had a LC50 > 100 %. A Ministry audit sample collected from the combined effluent discharge in June was non-lethal.

combined effluent (0100)

06900506 sampled: 04/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HOU

06900563 sampled: 05/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900719 sampled: 06/12/90 LC50: 29.4 %
95% fid. limits: 25.5 - 33.9 %
comments: 60% MORTALITY IN THE 30% CONCENTRATION

02900126 sampled: 06/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

06900865 sampled: 07/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06901143 sampled: 08/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

GE Plastics Canada Ltd. (continued)

06901369 sampled: 09/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

OT cooling water (0400)

06900504 sampled: 04/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HOU

02900127 sampled: 06/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

06900967 sampled: 07/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 30% MORTALITY IN 100% TEST CONCENTRATION

COMPANY: Guardsman Products Ltd., Cornwall
(122470008)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for two bioassays conducted on samples, collected from the once through cooling water effluent between April and December 1990, were provided by Guardsman Products Ltd. Both samples were not acutely lethal to test fish. A Ministry audit sample, collected in July, was non-lethal.

OTCW

(0100)

16900005 sampled: 04/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO LC-50 AS THERE WAS >50% SURVIVAL AT 100%

01900140 sampled: 07/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

16900033 sampled: 10/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO LC-50 DUE <50% SURVIVAL AT 100% CONC.

COMPANY: Guardsman Products Ltd., Cornwall
(122470008)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for an acute lethality tests conducted on once through cooling water samples collected between April and December 1990, was submitted Guardsman Products Ltd. The sample was not acutely lethal to Daphnia. A Ministry audit sample, collected in July, was also non-lethal.

OTCW

(0100)

16900005 sampled: 04/27/90 LC50: 0.0 - 0.0 %
95% fid. limits: 0.0 - 0.0 %
comments: NO LC-50 DUE TO >50% SURVIVAL AT 100% CONC.

02900140 sampled: 07/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

16900026 sampled: 10/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO LC-50 DUE <50% SURVIVAL @ 100% CONC.

COMPANY: Morbern Inc., Cornwall
(12580007)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for three trout bioassays, conducted on once through cooling water samples collected between April and December 1990, were provided by Morbern Incorporated. All three samples of cooling water were not acutely lethal to test fish. A Ministry audit sample, collected in August, was also non-lethal.

OTCW

(0100)

11900030 sampled: 06/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Tap water trough charcoal and UV

01900167 sampled: 08/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

11900042 sampled: 09/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Water through charcoal and UV

11900058 sampled: 12/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: water through charcoal and UV

COMPANY: Morbern Inc., Cornwall
(12580007)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for three bioassays conducted on samples collected from the once through cooling water discharge between April and December 1990, were submitted by Morbern Inc. All four samples were not acutely lethal to Daphnia. A Ministry audit sample, collected in August, had a LC50 > 100 %.

OTCW

(0100)

11900057 sampled: 06/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900167 sampled: 08/08/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Bell-shaped lethality curve

11900042 sampled: 09/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

11900058 sampled: 12/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: water through charcoal and UV

COMPANY: Novacor Chemicals Ltd., Corunna
(380105)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for five trout bioassays, conducted on combined effluent discharge samples collected between October 1989 and March 1990, were provided by Novacor Chemicals Limited. All five combined effluent samples were not acutely lethal to test fish. A Ministry audit sample, collected in July, had a LC50 > 100 %.

combined effluent (0100)

05900090 sampled: 04/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900113 sampled: 05/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900160 sampled: 07/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01900146 sampled: 07/18/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900178 sampled: 08/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900201 sampled: 09/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Novacor Chemicals Ltd., Corunna
(380105)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between April and September 1990 were submitted by Novacor Chemicals Ltd. of Mooretown. All six of the samples were not acutely lethal to *Daphnia*. A Ministry audit sample, collected in July, had a LC50 > 100 %.

combined effluent (0100)

05900090 sampled: 04/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900113 sampled: 05/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900140 sampled: 06/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900160 sampled: 07/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900146 sampled: 07/18/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900178 sampled: 08/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900201 sampled: 09/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Polysar Rubber Corporation, Sarnia
(30007)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for forty trout bioassays, conducted on process effluent, batch effluent, combined effluent and once through cooling water samples collected between April 1990 and September 1990, were provided by Polysar Limited. Twenty-one of twenty four samples collected from the four combined effluent discharge locations (0200, 0400, 0500, 1100) were non-acutely lethal to test fish. The other three combined effluent samples had LC50s > 100 % effluent. Fourteen of sixteen samples collected from the locations; OTCW 1400, OTCW 1600, batch 1700 and process effluent 1800 were also not acutely lethal to test fish. Only two samples, one collected from Batch and the other from process effluent, had LC50s of > 100 % effluent. Ministry audit samples, collected from each discharge, except for the Batch sample, were non-lethal. The Batch sample had a LC50 > 100 %.

combined effluent (0200)

05900070 sampled: 04/02/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01900074 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900099 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900124 sampled: 06/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900143 sampled: 07/02/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900166 sampled: 08/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900188 sampled: 09/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Rubber Corporation (continued)

combined effluent (0400)

05900074	sampled: 04/09/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
01900075	sampled: 04/24/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments: MISA Audit		
05900122	sampled: 05/28/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:		
05900128	sampled: 06/11/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900147	sampled: 07/09/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900185	sampled: 08/22/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900189	sampled: 09/10/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		

combined effluent (0500)

05900087	sampled: 04/16/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
01900072	sampled: 04/23/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments: MISA Audit		
05900119	sampled: 05/21/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:		
05900136	sampled: 06/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		

Polysar Rubber Corporation (continued)

05900157 sampled: 07/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900182 sampled: 08/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900195 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent (1100)

05900085 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01900071 sampled: 04/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900118 sampled: 05/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900134 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900156 sampled: 07/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900181 sampled: 08/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900196 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Rubber Corporation (continued)

OT cooling water (1400)

01900076 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900098 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900165 sampled: 08/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water (1600)

05900100 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900167 sampled: 08/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Batch (1700)

05900088 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01900077 sampled: 04/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900120 sampled: 05/21/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900137 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900158 sampled: 07/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Rubber Corporation (continued)

05900183 sampled: 08/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent (1800)

05900086 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01900073 sampled: 04/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900117 sampled: 05/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900135 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900155 sampled: 07/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900180 sampled: 08/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900197 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Polysar Rubber Corporation, Sarnia
(30007)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for forty *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent collected between April and September 1990 were submitted by Polysar Limited of Sarnia. Samples were collected from four combined effluent discharges, two once through cooling water discharges, one batch and one process effluent discharge. Nineteen of the twenty four combined effluent samples were not acutely lethal to *Daphnia*, while the remaining five samples produced 48 hour LC50s > 100 % effluent. An audit sample collected from the combined effluent discharge # 200, by the Ministry of the Environment in April, however was lethal to *Daphnia*. Statistically the percentage effluent required to kill 50 % of the *Daphnia* by the end of the two days was 66.6 %. All once through cooling water samples and Batch effluent samples were non-lethal to *Daphnia*. Three of six process effluent samples were non-lethal, while the remaining three showed some lethality, producing 48 hour LC50s > 100 %.

combined effluent (0200)

05900070 sampled: 04/02/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900074 sampled: 04/24/90 LC50: 66.6 %
95% fid. limits: 57.3 - 77.5 %
comments: MISA Audit

05900099 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900124 sampled: 06/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900143 sampled: 07/02/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900166 sampled: 08/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Rubber Corporation (continued)

05900188 sampled: 09/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent (0400)

05900074 sampled: 04/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900075 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900122 sampled: 05/28/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900128 sampled: 06/11/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900147 sampled: 07/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900185 sampled: 08/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900189 sampled: 09/10/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent (0500)

05900087 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900072 sampled: 04/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900119 sampled: 05/21/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Rubber Corporation (continued)

05900136 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900157 sampled: 07/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900182 sampled: 08/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900195 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent (1100)

05900085 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900071 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900118 sampled: 05/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900134 sampled: 06/18/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900156 sampled: 07/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900181 sampled: 08/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Rubber Corporation (continued)

05900196 sampled: 09/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water (1400)

02900076 sampled: 04/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900098 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900165 sampled: 08/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water (1600)

05900100 sampled: 05/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900167 sampled: 08/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Batch (1700)

05900088 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02900077 sampled: 04/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Very High Conductivity

05900120 sampled: 05/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900137 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Rubber Corporation (continued)

05900158 sampled: 07/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900183 sampled: 08/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent (1800)

05900086 sampled: 04/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

02900073 sampled: 04/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; High Conductivity

05900117 sampled: 05/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900135 sampled: 06/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900155 sampled: 07/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900180 sampled: 08/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900197 sampled: 09/17/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Rohm & Haas Canada Inc., Scarborough
(580001)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for two trout bioassays, conducted on cooling water samples collected between April and December 1990 were provided by Rohm & Haas Canada Inc. One of the samples was acutely lethal to test fish. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure was 82.8 %. The other sample was non-lethal.

OTCW

(0100)

03900293 sampled: 04/11/90 LC50: 82.8 %
95% fid. limits: 73.3 - 93.4 % slope: 15.6
comments:

03901059 sampled: 12/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Rohm & Haas Canada Inc., Scarborough
(580001)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for two Daphnia bioassays, conducted on cooling water samples collected between April and December 1990 were provided by Rohm & Haas Canada Inc. One of the samples was acutely lethal to Daphnia. Statistically the percentage effluent required to kill 50 % of the test animals was 3.68 %. The other sample was non-lethal.

OTCW

(0100)

03900293 sampled: 04/11/90 LC50: 3.7 %
95% fid. limits: 1.3 - 5.2 % slope: 3.3
comments:

03901059 sampled: 12/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

COMPANY: Rohm and Haas Canada Inc., Morrisburg
(580100)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for five trout bioassays, conducted on combined effluent samples collected between April and September 1990, were provided by Rohm and Haas Canada Incorporated. Two of the five samples were not acutely lethal to trout and the other three samples had LC50s > 100 % effluent. A Ministry audit sample, collected in April, had a LC50 > 100 %.

combined effluent (0100)

01900061 sampled: 04/03/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900409 sampled: 05/15/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 5% mortality @ 100% eff.; single conc. test

03900513 sampled: 06/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900588 sampled: 07/10/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Lethal; 55% mort. @ 100% eff; single conc. test

03900723 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900848 sampled: 09/25/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

COMPANY: Rohm and Haas Canada Inc., Morrisburg
(580100)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of Combined effluent collected between April and September 1990 were submitted by Rohm and Haas Canada Inc. of Morrisburg. Two samples were not acutely lethal to *Daphnia*, and four samples had 48 h LC50s > 100%. A Ministry audit, collected in April, was non-lethal.

combined effluent	(0100)
02900061 sampled: 04/03/90	non-lethal
95% fid. limits: 0.0 -	0.0 %
comments:	
03900317 sampled: 04/17/90	LC50: >100 %
95% fid. limits: 0.0 -	0.0 %
comments: LC50 >100	
03900409 sampled: 05/15/90	LC50: >100 %
95% fid. limits: 0.0 -	0.0 %
comments:	
03900513 sampled: 06/20/90	LC50: >100 %
95% fid. limits: 0.0 -	0.0 %
comments: LC50 >100	
03900588 sampled: 07/10/90	non-lethal
95% fid. limits: 0.0 -	0.0 %
comments: Non lethal	
03900723 sampled: 08/21/90	LC50: >100 %
95% fid. limits: 0.0 -	0.0 %
comments: LC50 >100	
03900848 sampled: 09/25/90	non-lethal
95% fid. limits: 0.0 -	0.0 %
comments: Non Lethal	

COMPANY: Stepan Canada Inc., Longford Mills
(140004)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for six trout bioassays, conducted on combined effluent samples collected between April and September 1990, were provided by Stepan Canada Incorporated. All six combined effluent samples were not acutely lethal to test fish. A Ministry audit sample, collected in April was also non-lethal.

combined effluent

(0100)

08900391 sampled: 04/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900541 sampled: 05/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01900105 sampled: 06/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit; Non-lethal

08900731 sampled: 06/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900801 sampled: 07/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900953 sampled: 08/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08901141 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

COMPANY: Stepan Canada Inc., Longford Mills
(140004)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between April and September 1990 were submitted by Stepan Canada Inc. of Longford Mills. Four of the six samples were not acutely lethal to *Daphnia*. The remaining two samples had LC50s > 100 % effluent. A Ministry audit sample, collected in June, had a LC50 > 100 %.

combined effluent (0100)

08900392	sampled: 04/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
08900542	sampled: 05/16/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
02900105	sampled: 06/06/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit	
08900732	sampled: 06/20/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:		
08900802	sampled: 07/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
08900954	sampled: 08/15/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:		
08901142	sampled: 09/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		

COMPANY: Uniroyal Chemical Ltd., Elmira
(680108)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

The data for nineteen trout bioassays, conducted on combined effluent and once through cooling water samples collected between April and September 1990, were provided by Uniroyal Chemical Limited. Eleven of thirteen combined effluent samples were not acutely lethal while the remaining two samples had LC50s > 100 %. Five of the six OT cooling water samples were non-lethal and the remaining had a LC50 > 100 %.

OT cooling water (0200)

03900304 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900415 sampled: 05/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900524 sampled: 06/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900596 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900710 sampled: 08/21/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 10 % mortality @ 100% effluent concentration

03900819 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Uniroyal Chemical Ltd. (continued)

combined effluent (0600)

03900305 sampled: 04/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

combined effluent (0800)

03900306 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900414 sampled: 05/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal; single concentration test

03900525 sampled: 06/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900597 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900711 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration test; Non lethal

03900820 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

combined effluent (0900)

03900307 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900413 sampled: 05/22/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 5% mortality @ 100 Eff.; single conc. test

03900526 sampled: 06/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: single concentration test; Non lethal

Uniroyal Chemical Ltd. (continued)

03900598 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

03900712 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; Non lethal

03900821 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

intake water (1000)

03900527 sampled: 06/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900595 sampled: 07/17/90 LC50: 45.0 %
95% fid. limits: 35.2 - 57.5 % slope: 6.0
comments:

COMPANY: Uniroyal Chemical Ltd., Elmira
(680108)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

The data for nineteen *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent collected between April and September 1990 were submitted by Uniroyal Chemical Ltd. of Elmira. One of six samples of once through cooling water was toxic to *Daphnia* with a 48 h LC50 = 39.7 %. Of the remaining five samples, two were non-lethal and three had LC50s > 100 %. Ten of the thirteen combined effluent samples collected were non-lethal and the remaining had LC50s > 100 % effluent.

OT cooling water (0200)

03900304	sampled: 04/16/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900415	sampled: 05/22/90	LC50: 39.7 %
95% fid. limits:	31.2 -	50.3 % slope: 7.0
comments:	Lethal	
03900524	sampled: 06/26/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900596	sampled: 07/17/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900710	sampled: 08/21/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900819	sampled: 09/18/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	

Uniroyal Chemical Ltd. (continued)

combined effluent (0600)

03900305 sampled: 04/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

combined effluent (0800)

03900306 sampled: 04/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900414 sampled: 05/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900525 sampled: 06/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900597 sampled: 07/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900711 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900820 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

combined effluent (0900)

03900307 sampled: 04/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900413 sampled: 05/22/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900526 sampled: 06/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Uniroyal Chemical Ltd. (continued)

03900598 sampled: 07/17/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900712 sampled: 08/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900821 sampled: 09/18/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

intake water (1000)

03900527 sampled: 06/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900595 sampled: 07/17/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

